

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference E31119 DLA/JOB		FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/NO 2003/000260	International filing date (day/month/year) 29.07.2003	Priority date (day/month/year) 29.07.2002	
International Patent Classification (IPC) or national classification and IPC A23J 3/04			
Applicant AMI GO AS et al			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 8 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☐ (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:
 - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input checked="" type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input checked="" type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand 26.02.2004	Date of completion of this report 18.11.2004
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer Inger Löfgren/Els Telephone No. +46 8 782 25 00

Box No. 1 Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ the international application as originally filed/furnished

☐ the description:

pages _____ as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the claims:

pages _____ as originally filed/furnished

pages* _____ as amended (together with any statement) under Article 19

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the drawings:

pages _____ as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application
- ☒ claims Nos. 1-41, (all in part)

because:

- ☐ the said international application, or the said claims Nos. _____
relate to the following subject matter which does not require an international preliminary examination (*specify*):

- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. _____
are so unclear that no meaningful opinion could be formed (*specify*):

- ☐ the claims, or said claims Nos. _____ are so inadequately supported
by the description that no meaningful opinion could be formed.

- ☒ no international search report has been established for said claims Nos. 1-41, (all in part)

- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the
Administrative Instructions in that:

- | | |
|----------------------------|--|
| the written form | <input type="checkbox"/> has not been furnished |
| | <input type="checkbox"/> does not comply with the standard |
| the computer readable form | <input type="checkbox"/> has not been furnished |
| | <input type="checkbox"/> does not comply with the standard |

- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with
the technical requirements provided for in the Annex C-*bis* of the Administrative Instructions.

- ☐ See Supplemental Box for further details.

Box No. IV Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
☐ paid additional fees.
☐ paid additional fees under protest.
☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is:

- ☐ complied with.
☒ not complied with for the following reasons:

The claimed invention comprises 9 different inventions:

- I. Claims 1-6, 7-10, 12 and 15-25 (all in part)
Method for recovering peptides/amino acids and use of
method for producing peptide/aminoacid-containing
Products.
- II. Claims 1-6, 7-10, 14, 15 and 26 (all in part)
Method for recovering first oil/fat product and use of
method for producing first oil/fat-containing products
- III. Claims 1-6 and 7-10 (all in part)
Method for recovering second oil/fat product and use of
method for producing second oil/fat-containing products
- IV. Claims 1-6 and 7-10 (all in part)
Method for recovering third oil/fat product and use of
method for producing third oil/fat-containing products

.../...

4. Consequently, this report has been established in respect of the following parts of the international application:

- ☐ all parts.
☒ the parts relating to claims Nos. 1-6, 7-10, 15-25 (all in part)

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box IV

- V Claims 1-6, 11 and 13 (all in part)
Method for recovering hydroxy apatite and use of method for producing hydroxy apatite-products
- VI. Claims 27-30, 32-37, 39 (all in part)
Method for recovering peptide/aminacids comprising membrane filtration step and use of the method for producing peptide/aminoacid-containing products.
- VII. Claims 27-30, 34-37 (all in part)
Method for recovering first oil/fat product comprising membrane filtration step and use of method for producing oil/fat-containing products.
- VIII. Claims 27-31, 34-37, 40 (all in part)
Method for recovering second oil/fat product comprising membrane filtration step and use of method for producing second oil/fat-containing products.
- IX. Claims 27-30, 34-38 and 41 (all in part)
Method for recovering hydroxy apatite, comprising membrane filtration, and use apatite-containing products.

The claimed invention relates to different methods for recovering peptides, free amino acids, oil/fat and minerals from raw animal or aquatic protein material. The invention also comprises products recovered by the methods and use of the products.

The single general concept of the invention is a method for producing a protein hydrolysate based on the use of natural enzymes, without the use of any non-natural substances.

However this concept is known from prior art since US5053234 discloses a proteinaceous product prepared from waste raw protein-containing animal parts. The method involves a hydrolyzing stage wherein ground proteins are treated with endogenous enzyme to form an aqueous suspension.

.../...

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: IV

Since the concept is known it cannot be inventive. Hence there is no single inventive concept in the meaning of Rule 13.1 PCT.

The common technical feature of the claimed inventions is the use of endogenous enzyme in the hydrolyzing of a protein raw material.

Since the common technical feature is not novel it is not a special technical feature. No other features can be distinguished which can be considered as same or corresponding special technical features in the sense of Rule 13.2 PCT.

Thus the invention lacks unity of invention.

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	<u>1-10, 12, 15-25</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>15-25</u>	YES
	Claims	<u>1-10, 12</u>	NO
Industrial applicability (IA)	Claims	<u>1-10, 12, 15-25</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

The claimed invention relates to different methods for recovering peptides, free amino acids, oil/fat and minerals from raw animal or aquatic protein material. This opinion is established on the first invention mentioned in the claims. The invention is related to a method for recovering peptides/amino acids and use of the method for producing peptide/amino acid-containing products. The invention is evident from claims 1-10, 12 and 15-25 all in part.

Cited document:

D1: US5053234, (column 4, line 29 - line 64)

D1 shows a method for preparing a proteinaceous product from waste raw protein-containing animal parts. The method involves a mulling stage where raw material is ground, a hydrolyzing stage where endogenous enzymes are active to form an aqueous suspension, a heating stage where the enzymes are inactivated, a separating stage where the indigestible solids are removed and a concentration and drying stage.

There are some minor differences between the claimed invention, according to claim 1, and D1. The addition of water, the temperature intervals and the pH adjustment are such details. They seem to be the choice of a person skilled in the art. From D1 it is also evident that water, temperature and pH are adjusted to optimize the process. In view of D1 the method according to claim 1 is considered to be obvious.

In view of D1 the methods and uses, according to claims 2-10 are also considered to be obvious to a skilled person.

According to claim 12, the claimed amino acid/peptide product is unclear in that it is defined by not comprising allergens and DNA traces. The invention according claim 12 is considered to be obvious and does not involve an inventive step.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: V

The claimed method according to claims 15-25 differs from D1 in that it involves the additional steps of removing proteins, concentrating amino acids and peptides and returning the proteins to the concentrate in order to obtain a protein product. In view of D1 the claimed method is not considered to be obvious to a skilled person. Accordingly the claimed invention involves an inventive step.

The claimed invention is also considered to be industrially applicable.